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# Global Weirding and Vanishing Animals

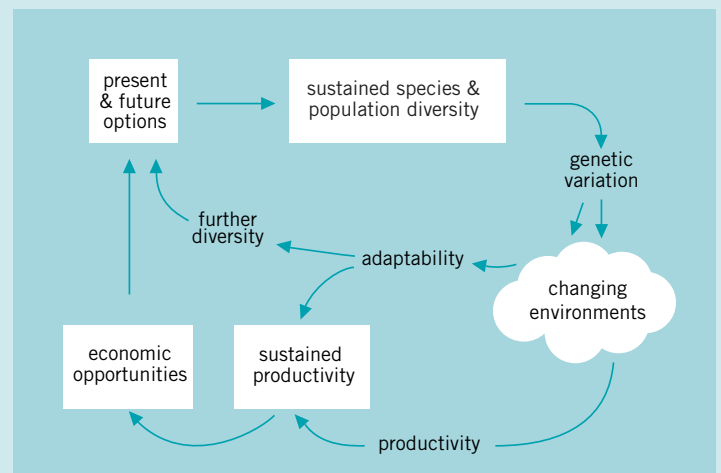
**WE'RE GRADUALLY LEARNING THAT THE ECONOMY IS A SUBSYSTEM OF** the biosphere, rather than the other way around. As this uncomfortable idea unfolds, we face the two largest threats humanity ever has faced: global weirding and species loss.

To stay calm, we call global weirding 'global warming.' But global warming is far too comfortable a term to describe the changes occurring. It implies little more than a gradual lowering of heating costs during winter and less expenditure on warm clothes. It also is hopelessly incomplete. Global weirding embraces all phenomena associated with climate change: heat waves, cold spells, floods, droughts, hurricanes, blizzards, plant and animal die-offs and population explosions, new animal migration patterns, and more. If global weirding was not so weird and scary, we would be paying more attention to species loss.

Over the past 100 years, the extinction rate of birds and mammals has been 7,000 times higher than the rate in the fossil record.<sup>1</sup> A difference of 7,000 times is astounding. Chances are excellent that if our days were even twice as hot, or rainfall twice as deep, we'd already be dead or working very hard to change things. Faced with far more rapid change in species loss, we do not appear unduly exercised. However, the change is real and we will miss them when they're gone.

## How Much Will We Miss Them?

A lot. Species provide goods and services we need (Figure 1).



**Figure 1.** Relationships among sustained species and population diversity and other desired outcomes of sustained productivity, economic opportunities and present and future opportunities<sup>2</sup>.

# Viewpoints

By Fred L. Bunnell, PhD, RPBio



If we can sustain the variety of species and their populations, we will have sustained the only renewable, self-replicating parts of nature and genetic variation. We also will have worked towards reducing our most feared losses—productivity and economic opportunity. Retaining a variety of individuals and species permits the genetic adaptability necessary to respond to changing environments, such as those created by global weirding. The capability to respond to changing environments helps to sustain future productivity, which in turn facilitates future economic opportunities. Only variety can beget new combinations of variety that can respond to changing futures and thus help meet both present and future options. So we need species richness, but how much?

We almost certainly don't *need* all species. Two common metaphors are used to describe species loss. The first equates species with rivets holding an airplane together. The loss of too many rivets causes the entire plane to crash. The second equates species with passengers in the plane. It holds that many species are simply along for the ride and have nothing to do with the plane's structural integrity. Both metaphors have their adherents because both are at least partly true. However, nature does not label which species are rivets and which are passengers. We rarely can tell how important they are to us until they are gone.

## The Lessons For Today

**If you don't grow it, you mine it.** We've passed peak fish, approached peak oil and flirted with peak credit (it was uncomfortable). Global weirding and species loss are enforcing a lesson we should have learned long ago—if we are going to sustain our lives we must rely on and nurture sustainable resources.

**Speak clearly.** Forest professionals have done a lousy job communicating some important facts. Here are a few:

- Wood has a far smaller ecological and carbon footprint than other construction products.
- Forests ameliorate both of the largest threats we face.
- Forests can provide goods and services sustainably.
- BC pioneered approaches to forest planning and practice that quickly migrated to four other continents because they were effective (e.g., large-scale variable retention, zoning intensity of fibre production, workable adaptive management systems and credible effectiveness monitoring).

**Be a good ancestor.** Ethics we create; needs are given to us. We can't escape need and we need the goods and services that functioning forests with most of their parts provide (Figure 1). If we are going to keep as many parts as possible and allocate resources effectively, we will have to stop our efforts to sustain some species while those species are still present. We have insufficient resources to counter all our mistakes and some effects of global weirding are impossible to stop no matter how

much funding we throw at them. Think of your kids and grandkids—try to handoff as many parts as possible; they will need most of them.

**Fill your boots.** It's going to get harder. We can't be climate proof, so we must be climate resilient. That means finding and creating flexibility and innovation. We already need the goods and services forests provide. Species are the parts of forests. Our kids will need as many parts as possible to sustain what weirding leaves them.

*Fred Bunnell, PhD, RPBio, is professor emeritus in forestry at the University of British Columbia and founding director of the Center for Applied Conservation Biology. He spent three decades developing ways to keep forest productivity and biodiversity intact.*

## Footnotes

<sup>1</sup> May et al. 1995. Pp 1-24 in J.H. Lawton and R.M. May (eds.). Extinction Rates. Oxford University Press. Smith et al. 1993. Nature 364: 494-496.

<sup>2</sup> Bunnell, F.L., L.L. Kremsater, and M. Boyland. 1998. An ecological rationale for changing forest management on MacMillan Bloedel's forest tenure. Publication R-22, Centre for Applied Conservation Biology, UBC.

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